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M. E. McIVER, Editor

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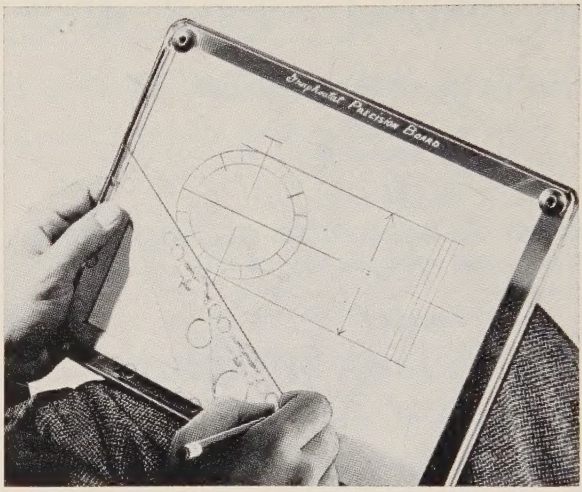

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Unity—as we see it

By M. E. McIVER, Editor

On January 14, 1915, sixteen engineers met at the Boston Oyster House in Chicago to consider the formation of an engineering club or lodge that might become a branch of a national engineering society devoted strictly to the social and economic problems of engineers.

On March 5, another group of men from other so-called "lodges" met for similar purposes. Representatives from all groups were appointed and a number of meetings were held during the following months. On May 14, 1915, a Constitution and By-Laws submitted by the tentative Board of Directors of what was at that time called the Associated Technical Men, was discussed. A constitution committee was appointed, and a substitute constitution submitted at a later meeting. Upon a vote of the majority present the constitution proposed by the Associated Technical Men was rejected, and the substitute constitution, was discussed very carefully, unanimously adopted, and referred to the tentative Board of Directors as representing the will of the majority.

The tentative board refused to consider it and as all efforts to conciliate the two factions which existed at the time were unsuccessful, the American Association of Engineers was formed as representing the will of the majority of engineers interested in the new movement.

The principal difference of opinion of the two groups was relative to the policies to be adopted by the new association. The engineers interested in forming the American Association of Engineers believed that the engineering profession could be advanced ethically, socially, and economically by cooperative methods, methods which would appeal to both the engineer and the employer and further that coercive or secretative methods could not succeed.

The winter of 1914-15 was a hard one for engineers and a most inopportune time to start a new society. Many were out of work, and men at work made little money. For instance, we find in the early records that structural detailers were paid 60 cents an hour, architectural draftsmen, $100 a month, bridge designers $125 to $150 a month. But, of course, newspapers were a penny in those days and bread, five cents a loaf. Still these young engineers were determined to push ahead.

In reality, in forming A.A.E. they were starting a movement to stop another movement, which they realized would ultimately be detrimental to the professional standing, not only of the men who unionized, but to the higher grades as well.

Type of Organization

What type of organization had these young enthusiasts, these crusaders for professional standards in mind? It is most interesting to study and analyze their ideas and methods, as set forth in the early issues of PRO-

FESSIONAL ENGINEER, or the "Monad" as the magazine was titled in those days. Throughout the first four or five years their plans were idealistic and somewhat nebulous, but at all times these early leaders advocated and strove for an all-inclusive national engineering society. Membership was made available to every rank and type of engineer.

Not only was this conception of the movement as an all-inclusive society for engineers held by the young men of the group but it was the dream of many of the older and distinguished men who joined A.A.E. and became active and influential leaders. The late Dr. Frederick H. Newell, Professor of Civil Engineering, University of Illinois, at that time was one of the first leading engineers to join A.A.E. and work for the advancement of its objectives, in particular, unity of the profession. The late Gardner Williams, was another engineering leader who joined A.A.E. because he believed there should be an all-inclusive national engineering society devoted to higher professional standards and resultant individual welfare.

It was the leadership of men like Williams and Newell that stamped A.A.E. indelibly as potentially all-inclusive. From his close contact with engineering students, Dr. Newell realized that the injustice of insufficient remuneration was the most dangerous threat to engineering morale. He believed that organization was the only method of improving wage standards, and was willing to work for that objective.

From its formative period to the present time A.A.E. has kept itself open to all types of engineers and has set up the objectives which a universal membership could easily attain and which would enormously benefit individuals even while it improves the standards of the entire profession.

A.A.E. was born during a depression, during a crisis, when engineers sorely needed a type of organization unhampered by tradition or conservatism to enable them to cooperate for professional protection and advancement. It had its largest growth between 1918 and 1921 following World War I, another crisis for the Engineer. A period when much thought and consideration was given to greater unity in the profession.

The lack of unity in the engineering profession which even in the best of times makes the methods of distributing engineering man power and the regulation of unwise competition in the sale of services unsatisfactory, is simply more apparent in times of general financial hardship.

When periods of acute distress arise, all ranks of engineers realize to some degree the need of agencies through which concerted effort can be brought to bear on common problems. They hunt for a new agency or attempt to remodel present institutions to eliminate faults that have become apparent. The only common quality of these movements is the fact that, groping for unity none of them ever seems able to think quite far enough to appreciate that the only agency which can do all the things that the various ranks and grades seem to demand is one supported by all engineers and especially designed to attack professional rather than technical problems; something similar to the American Medical Association.

During the past few years when it would appear that the demand for engineers is far greater than the supply; when engineering talent is recognized as of paramount importance in our atomic age, and the engineer, more adequately compensated for his services there seems to be considerable apathy on the part of engineers to give due consideration to the social and economic problems of their profession, and consequently less thought to unity in the profession.

True, leaders of the profession have during the past few years given serious consideration to ways and means whereby the various engineering societies, both technical and non-technical, could cooperate in increasing the unity of the engineering profession.

In October 1949, an exploratory group composed of representatives of fifteen engineering societies called together by the Engineers' Joint Council which had itself been studying ways and means to bring about greater unity in the profession for some time, met to study the matter, and regular meetings were held during the next few years. Various plans were submitted and studied, and Plan A which would expand the Engineers' Joint Council to include additional societies in its membership was the favored plan of the societies voting.

While American Association of Engineers has always believed that an organization that will unify the engineering profession must be autonomous, made up of individuals who directly contribute to its support, take an active part in its affairs, and democratically control it, nevertheless the Association hopes that the new Joint Council will be most successful in its proposed program. A.A.E. offers its full cooperation to this and any other movement that will bring about unity in the engineering profession.

A "unity organization" it seems to us must serve individuals as well as the profession. It must contribute to the "security" of engineers in a variety of ways. It should strive to improve the efficiency of engineers, to broaden their education along economic lines. The society should be equipped to render a highly scientific vocational counseling service to students and to graduate engineers, advising them of the fields and specialties in which they are likely to be most successful and contented. These are only a few of the personal services that the ideal professional organization should be able to perform.

In stimulating public service in the profession the society should not concentrate upon those eminent men who are qualified to advise governmental agencies at the national level. The great mass of engineers, the dependable routineers and competent administrative or executive engineers employed in industry and in state or local government, engineers in private practice throughout the nation should be united through a national organization and its regional, state and local chapters to serve their own communities. These groups should be ready to guide other civic agencies in their evaluation of local public works programs and other public affairs in which engineering is a factor. Only when these engineers are integrated

Professional courtesy should constitute a part of the Code of Ethics of every profession. It should not only be practiced between members in their professional relations, but also among organizations within the profession.

in a national organization through direct membership can they exercise the influence and carry the responsibility which membership in a profession connotes.

All the knowledge and experience gained by A.A.E. in almost forty years of professional welfare work is an asset . . . a heritage. This is the capital which A.A.E. possesses today that was not available to the engineers who worked so nobly and conscientiously in the Association's formative years. What it has accomplished is more gratifying as an indication of what can be done, then as an achievement itself. There are unexplored channels through which its energies can be directed, untapped sources of cooperation, and unlimited fields of application—all possible only when a majority of the members of the engineering profession are willing to work together for engineering welfare in an all-inclusive group.

Doctors and lawyers are largely soloists in their work, but they have long appreciated the power of professional unity. Engineers who above all other professional men know that great accomplishments in industry and science depend upon cooperation that extends to exquisite coordination in even the smallest factors, have been slowest to recognize that only through unity and close adherence to a common object of devotion can they effect the elevation of their group as a whole and the realization of their own ambitions.

Creativeness, a professional virtue, is often so pronounced in engineers as to be a vice. This is true when the Engineer loses sight of the ultimate purpose of his task in the scheme of things and worships his work as something apart; when he insists upon perfection with blind disregard of cost in cases demanding that utility and economy alone govern.

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First to be equipped with the Automatic Traffic Pattern Control is the Michigan Bell Telephone Building in Detroit.

HOW TRUE!

One of the outstanding conventions meeting in Chicago this year was that of the American Society for Testing Materials, held during the month of June. It was a big affair, featured by 36 technical sessions at which were presented 110 technical papers covering various aspects of engineering materials. It also included 600 meetings of the technical committees.

Seventy-two of the Society's technical committees reported at the meeting, with the result that 65 new specifications and tests were approved and revisions in 229 existing tentatives and standards were acted upon. A total of 109 specifications and tests that have been published previously as tentative were approved for reference to Society letter ballot for adoption as standard. All of these new and revised standards will be published later in the year in the 1954 Supplement to the Book of ASTM Standards.

The retiring president, Leslie C. Beard, Jr., Assistant Director of Socony-Vacuum Laboratories, Socony-Vacuum Oil Co., New York, spoke on "Plain Talk," which proved enlightening as well as interesting. Here's one pointed paragraph of the address: "The sciences have become so complex and workers in them have built up their own vocabularies to such an extent that a chemist has difficulty in understanding a physicist; the biologist can't talk to the geologist; none of them can talk plainly to the engineer. Sometimes the engineer can't get his ideas across to management; and few

technical people can explain their aims and what they have done to the public. Now the engineer must put the scientists' fundamental discoveries on the assembly line and ultimately the public must pay for it. This can be done well and quickly only if each has a clear understanding of what the other is talking about. This breakdown in communications retards invention and stifles the fruits of it."

Norman L. Mochel, Manager, Metallurgical Engineering, Westinghouse Electric Corp., Lester Branch, P.O., Philadelphia, Pa., was elected president for 1954-1955. The 1955 annual meeting of the Society will be held from June 26 to July 1, at the Chalfonte-Haddon Hall in Atlantic City.

BE CAREFUL OF EXPLOSIVE WASTES

In addressing the industrial waste disposal session of the Greater New York Safety Council, during its 24th convention held in New York early in April, Earl R. Wallace, safety engineer of the Eastman Kodak Company Rochester, warned his audience that the sewers in that city are potential "bombs" which could be exploded by cigarettes flipped into manholes.

"It has been determined," said Mr. Wallace, "that one gallon of a flammable solvent such as acetone, as vapor, can make one mile of eight-inch sewer tile an explosive bomb. In a city like New York I wonder how many gallons of flammable liquids are vaporizing in the sewers right now."

Although large industries are disposing of most their flammable or explosive wastes in plants of their own, Mr. Wallace said, a vast aggregate of explosive vapors collects in sewers as a result of flammable liquids poured down in individual households or from small commercial and industrial establishments and sometimes from larger plants that are poorly constructed or carelessly operated.

Industry in general has lessened many of the hazards of waste disposal but new problems are continually being created by the development of new synthetics and processes. "It is only in recent years," declared the speaker, "that mankind has been interested in utilizing waste materials to benefit civilization. When there were no longer any gulleys to fill, rivers to pollute and no more dumping grounds available, it became necessary to find a new place. Industry, too, found that the high cost of waste was cutting into their profit structure."

Much of what industry formerly regarded as a waste disposal problem has been solved by waste reclamation. Many former waste products have been made into profitable by-products. Mr. Wallace cited, as examples of utilization of other types of waste, the use of sawdust at lumber mills as fuel and its conversion into many products, and the sale of fertilizer made from the sludge of sewage disposal plants.

William M. Avery, Now Editor of Concrete

We reproduce here an announcement by Don Papineau, publisher of "Concrete" saying "Farewell" to a fine gentleman who has served his magazine as editor since 1943, John W. Shaver, and "Hail" to an equally fine gentleman who will succeed him, William M. Avery. We like the friendly tone, and the spirit in which the change in editors is announced. Sometimes we are afraid changes in personnel are given in rather cold, brief manner, not intentionally perhaps, but nevertheless lacking in appreciation of services rendered and to be performed.

"It will come as an unexpected piece of news to his hundreds of friends in the precast concrete products and ready mixed concrete industries to learn here that John W. Shaver, editor of *Concrete* since 1943, will retire this June 30th, to the life of a country gentleman in the Pacific Northwest, the land of his birth.

"We say an unexpected piece of news because even those who know him intimately will probably admit they never thought of him as being anywhere near retirement age, whatever that is. And, in truth, except for his accumulated years, over which none of us has any control, he isn't. The editorial vigor and vitality of *Concrete* is ample testimony of the fact that John continues at the top of his profession.

"He feels, however, that noble as it is to die with your boots on, he would just as soon they were fishing boots in his case. So, he has bought himself and his family a spot on Puget Sound. There's a snug little place a-building as this is written and come early July the Shavers will trek westward in a covered station wagon to begin, what we ardently hope will be, the best years of their lives.

"To say that he will be missed around here is the understatement of the year. You can't work with a person like John for as many years as we have and not miss him when he goes. Whatever his plans for the future, and we understand these include some free-lance work to keep his hand in, we say farewell and God bless you, John.

"As sorry as we are to announce John's leaving, we are that pleased and proud to relate the news that he will be succeeded as editor of *Concrete* by William M. Avery.

"We could stop at this point because here, in the best sense of the hackneyed phrase, is a man who really needs no introduction to the concrete products and ready mixed concrete industries. In his ten years on the editorial staff of *Pit & Quarry*, and since February 1953 its managing editor, Bill Avery has become one of the best-known, best-liked and avidly read editors in our field.

"However, since one of Bill's many fine qualities is a natural sense of modesty with regard to his personal accomplishments, his countless friends among our readers will appreciate knowing something of his background. His early education was received in the grade and high schools of Chicago.

The Engineer, of all professional men, is the greatest contributor to the economic progress and wealth of the community. On no other class of men is society so dependent for its luxuries, its comforts, and even its necessities as it is upon the Engineer and his work.

In 1933, he received his Bachelor of Science degree in Civil Engineering from the University of Illinois, financing his own way through school by private tutoring and part-time work in the office of the Dean of Men and the Civil Engineering department of the university. For two years following his graduation he represented the university in its sizable exhibit in Chicago's Century of Progress Exposition. For the next two years, he did straight-line engineering work for H. H. James & Co., construction engineers and surveyors, and Holabird & Root, architects, both Chicago firms.

"From 1937 to 1943, he was employed in the engineering department of the American Rolling Mill Co., now Armco Steel Corp., at Middletown, Ohio, and Ashland, Ky. At the outbreak of World War II, upon Armco's recommendation, he became instructor of intensive night school classes in engineering subjects under the Engineering, Science and Management War Training Program. He left Armco late in 1943 and shortly thereafter joined the editorial staff of *Pit & Quarry*.

"Bill's honorary society memberships include the well-known engineering fraternities, Tau Beta Pi, Sigma Tau and Chi Epsilon. He is also a member of the American Association of Engineers, the American Society of Mechanical Engineers, and the American Concrete Institute. His home is in Glen Ellyn, Illinois, where he lives with his wife and two young children.

"Thus continues the succession of outstanding men who have been at the editorial helm of *Concrete* in the fifty years since its founding in 1904. Great as all of them were, none came better equipped by education and experience to the post than does Bill Avery. We are sure the two great industries we serve will applaud our choice."

True Engineering

That is the best engineering, not which makes the most splendid or even the most perfect work, but that which makes the work that accomplishes the purpose well at the least cost.

The high object of our profession is to consider and determine the most economic use of time, power and matter. The avoidance of large expenditure when possible is a mark of best engineering.

True engineering is the economical adaptation of the means and opportunities existing to the end desired.

—Feats of Railway Engineer. Scribner, June, 1888.

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Georgia—State Board for the Examination and Registration of Architects, R. C. Coleman, Joint Secretary, State Examining Boards, 111 State Capitol, Atlanta.

Hawaii—Board of Registration for Professional Engineers, Architects and Land Surveyors, William C. Furer, Secretary, 1909 Aleo Place, Honolulu.

Idaho—Department of Law Enforcement, Britt Nedry, Dir., Bureau of Occupational License, State Capitol, Boise, Idaho.

Illinois—Department of Registration & Education (Architect Division) Frederic B. Selcke, Supt. of Registration, Springfield, Illinois.

Indiana—State Board of Registration for Architects, Pauline H. Schumack, Secretary, State Capitol, Indianapolis.

Iowa—Board of Architectural Examiners, William L. Perkins, Secretary-Treasurer, 736 Lucas Avenue, Charlton.

Kansas—State Board of Architectural Examiners, C. F. Boucher, Secretary, 1002 Brown Bldg., Wichita, Kansas.

Kentucky—State Board of Examiners and Registration of Architects, Edd. R. Gregg, Secretary-Treasurer, Heyburn Bldg., Louisville, Kentucky.

Louisiana—Department of Occupational Standards, Howard E. Adger, Director, Louisiana State Capitol, Baton Rouge, La.

Maine—State Board of Architects, Arthur R. Savage, Secretary, 283 Water Street, Augusta, Me.

Maryland—Board of Examiners and Registration of Architects, T. Worth Jamison, Jr., Executive Secretary, 8 E. Mulberry Street, Baltimore 2, Md.

Massachusetts—Board of Registration of Architects, Richard J. Sha Secretary, State House, Boston, Mass.

Michigan—State Board of Registration for Architects, Professional Eng neers and Land Surveyors, Henry G. Groehn, Secretary, 70 Cadillac Square Bldg., Detroit, Mich.

Minnesota—Board of Registration for Architects, Engineers, Lan Surveyors, Helen D. Carlson, Executive Secretary, 316 Ne York Building, St. Paul, Minn.

Mississippi—State Board of Architecture, Carl E. Mathes, Secretar Treasurer, 1640 W. Beach, Biloxi.

Missouri—State Board of Registration for Architects and Professio Engineers, Mrs. Clemmie V. Wall, Secretary, Box 184, Je ferson City.

Montana—State Board of Architectural Examners, H. C. Cheever, Exec tive Secretary-Treasurer, Montana State College, Bozeman

Nebraska—State Board of Examiners for Professional Engineers a Architects, Roy M. Green, Secretary, 204 M. A. Buildi University of Nebraska, Lincoln.

Nevada—State Board of Architecture of Nevada. Aloyius McDona Secretary, 1420 South 5th Street, Las Vegas.

New Hampshire—State Board of Registration for Architects, Ned Spau ing, Secretary, 6 School Street, Hudson.

New Jersey—State Board of Architects, Gilbert C. Higby, Secretar Treasurer, Suite 448, 1060 Broad Street, Newark.

New Mexico—Board of Examiners of Architects, K. S. Clark, Secretar 118 Otero St., Santa Fe.

New York—State Board of Examiners of Architects, Harold T. Brinke hoff, Secretary, 339 Lexington Avenue, New York 16.

North Carolina—State Board of Architectural Examination and Registra tion, Ross Shumaker, Executive Secretary, Box 5445, Raleig

North Dakota—State Board of Architecture, Robert Bitterbush, Secretar Treasurer, Bismarck.

Ohio—State Board of Examiners of Architects, R. C. Kempton, Executiv Secretary, 50 West Broad Street, Room 2750, Columbus.

Oklahoma—State Board of Examiners of Architects, Leonard H. Baile Secretary-Treasurer, 1216 Colcord Building, Oklahoma Cit

Oregon—State Board of Architect Examiners, Margaret Goodin Fritsc Secretary, 602 Conrad Building, 208 W. Stark Street, Portlan

ILLINOIS STATE EXAMINATIONS—1954

For Professional Engineers	November 9-10
For Structural Engineers	September 14-17
For Architects	November 16-19

Pennsylvania—State Board of Examiners of Architects. M. Edwin Green, Secretary, Bureau of Professional Licensing, Department of Public Instruction, Harrisburg.

Puerto Rico—Board of Examiners of Engineers, Architects and Surveyors, Luis Cueto Coll, Secretary-Treasurer, Box 3717, Santurce.

Rhode Island—Board of Examination and Registration of Architects, Oresto di Saia, Chm., 40 Fountain St., Providence.

South Carolina—State Board of Architectural Examiners, Julian B. Shand, Secretary-Treasurer, Univ. of South Carolina, Columbia, S.C.

South Dakota—State Board of Engineering and Architectural Examiners, Prof. E. D. Dake, Secretary, School of Mines, Rapid City.

Tennessee—State Board of Architectural and Engineering Examiners, Granbery Jackson, Jr., Secretary-Treasurer, 1313 Nashville Trust Building, Nashville.

Texas—State Board of Architectural Examiners, Harold E. Jassen, Secretary, 2816 Hemphill Park, Austin.

Utah—Department of Business Regulation, Frank E. Lees, Assistant Director, Department of Registration, 324 State Capitol, Salt Lake City.

Vermont—Board of Registration and Examinations, P. M. Cole, Secretary, Woodstock.

Virginia—Professional and Occupational Registration, Director, Box 1-X, Richmond, Va.

Washington—Department of Licenses, Edward C. Dohm, Acting Director, Olympia.

West Virginia—Board of Architects, L. D. Schmidt, Secretary, Professional Building, Fairmont.

Wisconsin—Registration Board of Architects and Professional Engineers, W. A. Piper, Secretary, 1100 State Office Building, Madison, Wisc.

Wyoming—Wyo. State Board of Architects, F. H. Porter, Secretary, 1009 E. Lincolnway, Cheyenne, Wyo.

Bakersfield College Engineers

Our field trip schedule has been an interesting one. Early in the fall we visited the Pacific Gas and Electric Steam Power Plant. This was followed by the first of two trips to Griffith Observatory and Planetarium in Hollywood. Our first trip this spring was to the Bakersfield Standard Oil Refinery and Thermal Cracking Plant and shortly thereafter we visited the transmitter and studios of one of our local television stations, KBAK-TV. Remaining on the calendar for this school year include field trips to the steel mill at Fontana and the Michelson Laboratories at the Naval Ordnance Test Station at Inyokern.

Lectures and demonstrations which we have sponsored were made by representatives of Du Pont, I.B.M., Schlumberger Oil Well Prospecting Co., Pacific Gas & Electric, as well as an engineering forum series extending through the fall semester.

This year, as last year, our basketball team won the intramural championship trophy. Our bowling teams are now participating in the college tournament.

Our social activities began with the annual fall steak bake. Later, we had a potluck supper and bowling match with the women's service club. We are planning, for the spring, another steak bake and a fishing trip.

Our candidate for Football Queen, Betty Robie, was successful. The Queen contest is an annual event of top importance in which each college club promotes a candidate. Betty was awarded a bracelet by the club in recognition of her victory.

Club activities were financed by the annual turkey sale in November, and by a booth at the carnival dance.

One of our most important projects this spring will be the presentation of a scholastic award to a promising local high school student who plans to make engineering his career.

The award consists of a log duplex decitrig K & E slide rule, which will certainly be of as much use to the engineer as the engineering student. Through this presentation, which we plan to make an annual affair, we hope to stimulate interest in engineering as well as in our school.

North Idaho Junior College

"Several times a year," writes Wal Hendrickson, secretary of the A.A. Student Chapter at North Idaho Juni College, "our Engineers Club meets wi several of the local engineers at dinne Stanley Eastman, President of Bunk Hill and Sullivan Mines, gave an inte esting address at one of our meetings the opportunities for mining engineers.

"We very much enjoyed our trip the newly completed Cabnit Gorge da made possible through the courtesy the Washington Water Power Co.

"Our club is very active in the soci life on the campus. We have held smoker and are planning for the annu Engineers Ball, which is the climax our social events."

Riverside College

"The Engineering Club at Rivers College, A.A.E., started its activities w a bang," writes Archie J. Twogo chapter advisor. "This was due larg to our energetic President, Robert Archibald. Our first trip was to Rocket Research Society's desert t grounds, where we observed tests of fo rockets. The grounds are located ne Mojave, California, about 150 miles fro Riverside.

"By the way, Robert L. Archibald r ceived the scholarship award this ye given by the San Bernardino Chapte A.A.E., for his outstanding interest the Engineers Club."

Assisting Mr. Archibald in the ma agement of the club are the followin student engineers, Vice President, Lla Phillips; secretary and treasurer, Burto Lynch, and transportation chairma Dennis Timmons.

San Bernardino Valley College

While not a large group, the A.A.E Student Chapter at San Bernardino Va ley College is an active group, intereste in promoting the aims and objectives A.A.E. The officers for the current yea are as follows: President, John Goolsby Vice President, Ralph Hunt, Jr.; Secr tary-Treasurer, Jack Bentsen; Progra Chairman, Robert Lawton; Excursio Chairman, James Hughes; and Advisor Mr. Health and Mr. James.

Books of Interest for Engineers

Keep posted . . . Know what is happening in your profession . . . If the book you need is not listed, we can get it for you. The A.A.E. book department is always glad to make recommendations on any technical subject. The service was inaugurated for your convenience. Make use of it.

Measurement Techniques in Mechanical Engineering, R. J. Sweeney, Consulting Engineer. John Wiley and Sons, Inc. $5.50.

The book is designed to aid two classes of readers; students and practicing engineers in development and research work. It aims to provide a source of information on the measurement techniques which are commonly used in performance testing of power equipment.

Design in Structual Steel, John E. Lothers, Prof., Oklahoma A and M. Prentice-Hall. $10.00.

Written for architects, building contractors, structural, civil, consulting engineers and students. The book is unusually complete in its coverage and analysis and design in steel, gives the latest in building and bridge specifications, and demonstrates the use of the most recent methods of analysis and design.

Fundamentals of Electronic Motion, Willis W. Harman, Assoc. Prof., Electrical Engrg., Stanford Univ. McGraw-Hill Book Co. $6.50.

The book deals with the essential philosophy of electron-tube analysis, and is intended to primarily stimulate and further an ability to cope with new problems and situations. No previous knowledge of electromagnetic field theory, nor any mathematics beyond calculus is assumed. A good textbook, by an author who knows his subject.

Principles of Automatic Controls, Floyd E. Nixon, Electro-Mech. Group Engineer. The Glenn L. Martin Co. Prentice-Hall, Inc. $9.35.

The purpose of the book is to give the reader a reasonably complete understanding of the various principles utilized in the design of an automatic control system, and the author has succeeded in doing just that. A first year's course in physics is assumed. The book is well arranged, and is replete with explanatory diagrams.

Elements of Heat Treatment, by the late George M. Enos, Prof., Metallurgical Engineering, and William E. Fontaine, Assoc. Prof., Mechanical Engrg., Purdue Univ. John Wiley & Sons. $5.00.

The book is the outgrowth of notes

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used in the first course in Metal Processing given to freshman engineering students at Purdue, and it is an attempt to set down in simple straightforward language the basic fundamental theory involved in the heat treatment of metals. Helpful to engineers in this field.

Principles and Practices of Telecasting Operations, by Harold E. Ennes, Inst., Radio & Telv., Jordan College, Butler Univ. Howard W. Sams & Co. $7.95.

The purpose of the book is to serve as a thorough training guide for prospective operators (as distinguished from research or design engineers) and to provide a reference handbook for operators already in the field. Intended for those who have a fundamental knowledge of radio.

Theory and Practice of Reinforced Concrete, 3rd ed. Clarence W. Dunham, Assoc. Prof., C. E., Yale Univ. McGraw-Hill Book Co., Inc. $7.00.

The new edition of this outstanding book covers materials and fundamental principles and is intended for undergraduate engineering courses and those who wish to obtain information about concrete construction in general. Large re-written and greatly amplified because of extensive developments in reinforced concrete.

Engineering Electronics, George E. Happell and Wilfred M. Hesselberth, both of the School of El. Engrg., Purdue Univ., $7.50.

Material covers an elementary approach to the physics of vacuum tubes, and the characteristics of diodes, triodes, and multigried vacuum tubes. Suitable for those planning to specialize in communication, servomechanisms, electronics, or power fields. Gives a theoretical and practical treatment of electronics.

A.S.E.E. Holds Annual Meeting

The American Society for Engineering Education held its annual meeting at the University of Illinois, Urbana, Illinois, June 14-18, 1954. Ellis Danner, Profess of Highway Engineering at the Unive sity, was the official representative of t American Association of Engineers.

The fiftieth anniversary of the foun ing of the Engineering Experiment St tions in Engineering Colleges was co memorated at the Urbana meeting.

Long Beach City College

The following young men are n directing the activities and meetings the Long Beach City College Chapt A.A.E.: Chuck Youde, president, a Rod Warfield, vice president. Linc Odell is in charge of the financial ma ters, and John R. Conners, recordi secretary. Frank Honda serves as cor sponding secretary. Noble Hines, is t faculty sponsor.

N.C.S.B.E.E.

The National Council of State Boa of Engineering Examiners will hold thirty-third annual meeting in St. Pa Minnesota, in Hotel Saint Paul on Aug 26, 27, and 28. Mr. L. J. Neubauer, w Ellerbe and Company, architects a engineers, St. Paul, will be the Associ tion's official representative.

Philip S. Donnell, with the City Wa Board, San Antonio, Texas, represent A.A.E. at the Council's thirty-second a nual meeting held in San Antonio, October 29, 30 and 31, 1953.

New Haven College

William E. Milligan of Yale Unive sity, Metallurgical Laboratory, is t sponsor of the A.A.E. student chapter New Haven College.

During the past year the group h been managed by Charles Ryan, Chai man; William N. Pantalone, Vice Chai man; Clifford Nitchke, recording secr tary; Alexander Possidente, treasure William G. Hoffman, corresponding se retary. William T. Gore was chairman the Program Committee and Grant Briggs, chairman of the Membersh Committee.